CLAIM AMENDMENTS

Claims 1 to 8 (cancelled).

9. (Currently amended) A device for measuring electrical potential comprising:

an electrode body in the form of a spike adapted to be driven into the ground and formed with two electrically separate surfaces positioned to contact the ground simultaneously the ground forming a sample;

an electrical excitation source connected to one of said surfaces for feeding an electrical excitation signal to said sample, said one of said surfaces being a jacket of said body in the form of a metal tube, the other of said surfaces for measuring an electrical potential in the ground being formed upon a pointed solid metal tip of said spike adapted to be driven into the ground; and

an electrical potential measuring unit connected to the other of said surfaces for measuring an electrical potential in said sample resulting from application of said electrical excitation signal to said sample, ~~The device defined in claim 8 wherein~~ the tip of said spike [[is]] being composed a more noble metal than said jacket.

10. (Original) The device defined in claim 9 wherein the jacket is separated from the tip by an annular insulator.

11. (Original) The device defined in claim 10, further comprising a flexible electrical conductor extending upwardly through said tube and connected to said tip.

12. (Original) The device defined in claim 11, further comprising an insulator extending through said tube and separating said flexible electrical conductor from said jacket.

13. (Original) The device defined in claim 10, further comprising a solid metal rod or tube extending upwardly from said tip through said jacket to supply an electrical potential measurement to an electric circuit.

14. (Original) The device defined in claim 13, further comprising an insulating tube surrounding said solid metal rod or tube for insulating said solid metal rod or tube from said jacket.

15. (Original) An apparatus for measuring conductivity of a sample, comprising two electrode bodies each formed with two electrically separate surfaces positioned to contact simultaneously a sample, said electrode bodies being spaced apart in said sample; a electrical excitation source connected to one of said surfaces of each electrode body for feeding an electrical excitation signal through said sample; and an electrical potential measuring unit connected to the other of said surfaces of each electrode body for measuring an electrical potential across said sample resulting from application of said electrical excitation signal to said sample.

16. (Original) A device for measuring a three-dimensional tomographic electrical conductivity distribution in a sample, comprising a plurality of electrode spikes driven into the ground in spaced-apart relationship, each of said spikes comprising an electrode body formed with two electrically separate surfaces positioned to contact simultaneously said sample;

a electrical excitation source connected to one of said surfaces of each spike for feeding an electrical excitation signal to said sample; and

an electrical potential measuring unit connected to the

other of said surfaces of said spikes for measuring an electrical potential in said sample resulting from application of said electrical excitation signal to said sample.

17. (New) A device for measuring electrical potential in the ground, comprising:

an electrode body in the form of a spike adapted to be driven into the ground and having an electrically conductive metal jacket and an electrically conductive metal point electrically insulated from the jacket and composed of a metal more noble than the metal of said jacket;

an electrical excitation source connected to the jacket for feeding an electrical excitation signal to the ground; and

an electrical potential measuring unit connected to said point for measuring electrical potential in the ground resulting from application of said electrical excitation signal thereto.